INSTRUCTION MANUAL

OxyTechw² RDO Pro-X

Optical Dissolved Oxygen Sensor

partech

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1 Foreword

Partech's WaterWatch² product range is focused on providing reliable measurements of the key control and monitoring parameters for Wastewater and Drinking Water treatment. OxyTechw² sensors are a major part of the range and provide Dissolved Oxygen measurement. This manual covers the OxyTechw² RDO Pro-X version. RDO Pro-X is a registered trademark of In-Situ® Inc., Fort Collins, CO USA

The OxyTechw² RDO Pro-X Sensor has been designed to provide highly reliable Dissolved Oxygen measurements using the industry accepted optical luminescent technology. Optical measurement of dissolved oxygen offers improvement over older galvanic type sensors, this includes extended times between maintenance, no drift, a faster response and allows installation in applications where there is low or no flow.

For installations in activated sludge plants (ASP's), we recommend that the sensor is installed using our specially designed mounting system, with a flexible joint in the mounting shaft. The flexible joint moves the sensor in the process, keeping the membrane clean by reducing bio-fouling without the use of a compressor and with the added benefit of allowing rags to fall away from the assembly. This motion is similar to that achieved by using a floating ball assembly, with the added advantage of placing the sensor below the surface of the liquor. This means that the sensor is below the level of the floating fats and greases that accumulate at the surface and results in the Dissolved Oxygen reading being more representative of the whole tank.

The OxyTechw² RDO Pro-X Sensor provides the reliable, accurate measurement that is required to operate activated sludge plants at the optimum Dissolved Oxygen concentration, maintaining the balance between the running costs of blowers and aerators and the need to produce high quality effluent.

OxyTechw² RDO Pro-X Sensor

2 Introduction

2.1 Manual Conventions

All dimensions stated in this manual are in millimetres unless otherwise stated.

The manual has been written assuming the user has a basic knowledge of instrumentation and an understanding of the type of measurement being made. Training in the use of the 7300w² Monitor and sensors can be provided, please contact Partech for further information.

Icons have been used throughout this manual to draw your attention to precautions and useful notes.

They are categorised in the following way-

GENERAL NOTES – General notes of interest to the user.

GENERAL CAUTION – Used where caution is required to prevent injury, damage, corruption of data, loss of calibration or invalidation of warranty etc.

INSTALLATION NOTES – General installation notes of interest to the installer.

ELECTRICAL CAUTION – Used where there is a danger of electric shock to the installer or end user, or where caution is required to prevent damage to the instrument.

MAINTENANCE NOTES – Used to highlight recommended maintenance procedures and help with fault finding.

ENVIRONMENTAL NOTES – General notes on environmental issues, waste and disposal.

2.2 WaterWatch² Trademark

WaterWatchw² is the family name for the w² range of Monitors and sensors. Sensors and instruments designed for specific use with the 7300w² Monitor will be suffixed with the w² trademark.

2.3 RDO Pro-X® Trademark

The RDO Pro-X Rugged Dissolved Oxygen Sensor and associated uses of the RDO name are registered trademarks of In-Situ Inc, Fort Collins, CO, USA

2.4 Scope of Manual

This manual describes the installation, configuration, testing and operation of the OxyTechw² RDO Pro-X Sensor. Please refer to 7300w² Monitor manual for standard functions of the 7300w² Monitor.

2.5 External Sensors

External sensors refers to any sensors or instruments connected to the 7300w² Monitor.

3 Safety Precautions

3.1 General

Read the safety precautions carefully.

Check the delivery of your WaterWatch² sensor for damage. Any damage should be reported to your supplier as soon as possible.

Use care when unpacking the sensor. NEVER use sharp instruments to open the packaging, as this can cause damage to the sensor or cable.

Only use accessories specifically manufactured by Partech for use with this sensor.

Read the operating instructions carefully before installing and operating this sensor.

Keep the cable connections dry and free from contamination during installation.

Keep the sensor away from high voltage cables.

3.2 Electrical installation

Only suitably qualified personnel or competent person may install, operate or repair this equipment.

Please check the sensor has been terminated correctly. Incorrect termination may causes damage to the sensor or monitor.

The WaterWatch² family of sensors are designed exclusively for use with the 7300w² Monitor. DO NOT connect to other monitors.

Sensors need to be correctly addressed to the monitor before use. Please read the *Quick Start* and *Advanced Configuration* sections of this manual for full details.

3.3 Operating

Because these sensors have a wide range of applications, users must acquire the appropriate knowledge to use these sensors in their specific application.

Partech are always available to provide advice and assistance in your application. Please contact Partech for further information.

These sensors must be correctly calibrated before use. Please read the *Advanced Configuration* sections of this manual for full details of calibration procedures.

3.4 Service and Maintenance

Before maintenance, this equipment must be isolated or disconnected from HAZARDOUS LIVE voltages before access.

Maintenance instructions for the OxyTechw² RDO Pro-X Sensor should be carried out as specified in this instruction manual. Failure to carry out regular maintenance could invalidate the Warranty.

Services and repairs must be carried out by a Partech engineer. Partech can provide a service contract for your system. Please ask for details.

3.5 End of Life Disposal

Equipment should be recycled according to local regulations.

Any calibration solutions should be disposed of as described in the Manufacture Safety Data Sheet accompanied with the calibration solution.

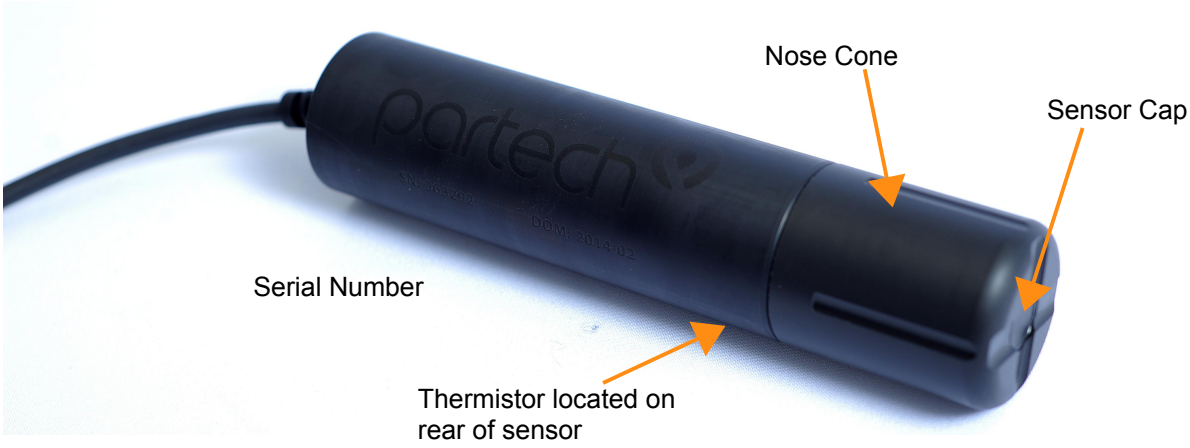
Partech can provide recycling and disposal of your old Partech equipment, and may also provide the same service for other manufactures equipment when replaced with Partech equipment.

Partech may provide a trade-in option for new equipment. Please contact Partech for further information.

4 OxyTechw² RDO Pro-X Sensors

Whilst every attempt has been made to ensure that these instructions are correct, common sense and good engineering practice should always be used, as every installation can present a new set of challenges and difficulties. If you are in any doubt please contact Partech or your local distributor for further information.

4.1 OxyTechw² RDO Pro-X Sensor



The OxyTechw² RDO-X Dissolved Oxygen Sensor operates with optical luminescence measurement technology described in Standard Method 4500-O and In-Situ Methods 1002-8-2009, 1003-8-2009, 1004-8-2009 (EPA Approved). An oxygen-sensitive layer is lit up with a blue LED. The sensitive material emits a red light (Fluorescence). Its intensity and emission phase should vary according to oxygen concentration. A full explanation is available in additional documents found on our website.

This kind of optical technology requires very few consumables:

- No membrane replacement
- No electrolyte

The DO cap containing the optically sensitive material needs replacing approximately once every 2 years.

4.1.1 Storage

The OxyTechw² RDO Pro-X Sensor can be stored in any suitable environment (temperature -5 to 60°C), the sensor cap must be kept above freezing and should be kept in the container in which it was shipped. The sensor cap has a limited life and should be used within 1 year of shipment to maintain it's full operating life.

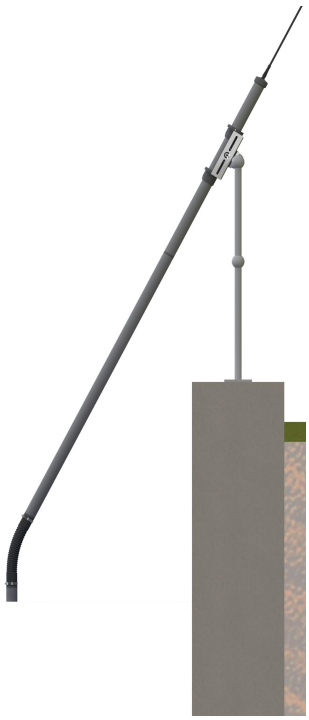
5 Mechanical Installation

Reliable accurate measurement from any instrument can only be achieved by correct installation of the measuring device. If you are in any doubt contact Partech or your local distributor for advice.

Below are some points that should be considered before starting to install the sensor, or in the event an installed sensor gives unreliable measurements-

- Ensure that the sensor is immersed deeply enough into the sample.
- The sensor should be mounted in such a way as to allow easy access for calibration and maintenance. It should be possible to remove the sensor from the process without the need to shut the process down.
- The sensor must be monitoring a sample of the process that is representative of the whole process.
- To allow a single technician to calibrate and maintain the system the sensor should be placed within sight of the 7300w² Monitor. Although cable runs of up to 100 metres are possible, practical operational problems can be caused.
- Where possible, angle the sensor so that it is pointing down stream, this will allow any “ragging” to be removed by the flow past the sensor.
- Do not install where there is a likelihood of freezing.

5.1.1 Mounting Options



Partech offer a range of mounting brackets for the installation of the OxyTechw² RDO Pro-X Sensor, which will allow the user to apply the sensor in a wide variety of locations. Drawings of the brackets are shown in the relevant “Optional Accessories” sections of this manual. When assessing mounting options, attention should be paid to the accessibility of the sensor for calibration and maintenance, stability of the sensor in the flow conditions present on site and to ensuring the sensor is fully submerged at all times.

5.1.2 Mounting Shaft

An optional mounting shaft fitting can be used to allow the OxyTechw² RDO Pro-X Sensor to be fitted to a number of mounting accessories. Partech supply mounting shafts manufactured from 2” nominal bore grey ABS pipe in 0.5, 1.0, 1.5, 2, 2.5 and 3.0 metre lengths. Whilst other lengths can be provided as special orders, generally standard lengths will satisfy most requirements. It should be noted that sensors with long mounting shafts are difficult to move safely and can present problems with calibration and maintenance, shaft lengths should be kept to a minimum where possible.

5.1.3 Handrail and Wall Brackets

The mounting shafts described above need to be attached to the structure of the tank or flow channel where measurement is required. The mounting shaft sits inside the mounting bracket and is located using locking collars. To remove the mounting shaft, remove the locking thumb screw and lift the shaft from the bracket.

Care should be taken to ensure that the sensor can be reached from the walkway to allow removal for calibration and maintenance.

5.1.4 Customer Supplied Brackets

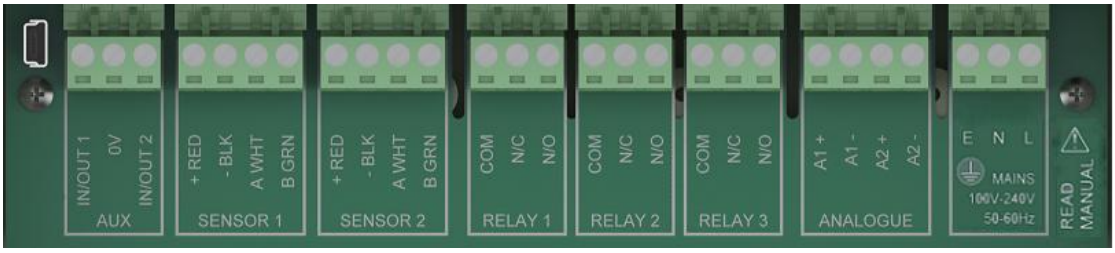
When creating brackets to mount the OxyTechw² RDO Pro-X Sensor, care should be taken to ensure that the following guidelines are observed:

- The bracket must be strong enough to support the sensor with minimum movement when installed into the sample.
- The sensor should be fitted by clamping around the sensor body or suspended by the cable.
- Consideration should be given to enable simple removal and replacement of the sensor for inspection, calibration and servicing to be carried out.

6 Electrical Installation

6.1.1 Electrical Installation

Unscrew the two cover screws on the lower panel of the 7300w² Monitor to reveal the Terminals. Each terminal strip is labelled as illustrated below. (This equipment must be isolated or disconnected from HAZARDOUS LIVE voltages before access). Refer to the 7300w² Monitor user manual for full description of all the terminals within the monitor.



The maximum size wire that can be terminated is 2.5mm² CSA. All the connections are via removable Plug/Socket terminals. To disengage the terminal strip, simply pull down to release.

6.1.2 ModTechw² Sensor Connections

When routing the sensor cables, please ensure the cable is separated from any mains cables. Although the Partech w² sensors have a high resistance to interference, separation of mains and data cables is good practice and should always be followed where practical.

All sensors in the w² range communicate with the monitor using the ModTechw² Protocol. This protocol has been specifically designed to take advantage of the advanced features and diagnostics designed into the w² range of sensors.

All sensors within the w² family of instruments are connected to the 7300w² Monitor using the same 4 wire + screen configuration.

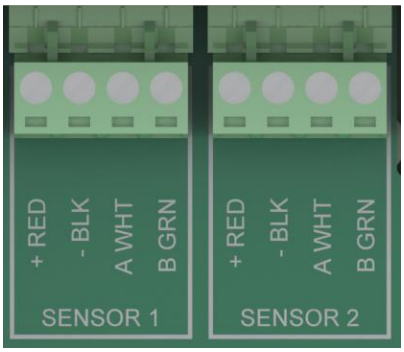
- RED and BLACK wires provide the 12VDC supply to the sensor
- WHITE and GREEN provide data communication
- SCREEN connected with BLACK wire.

NOTE – for the OxyTechw² RDO-X use BLUE in lieu of WHITE

The OxyTechw² RDO-X Sensor also has other colours (White and Brown) within the cable, these are not intended for use with the 7300w² Monitor.

6.1.3 Sensor Connections to 7300w² Monitor

Two sensors can be directly connected to the standard 7300w² Monitor, additional sensors can be added using the optional expansion boxes available separately.



Remove the 4-way connector from the 7300w² Monitor by pulling downwards to disconnect for easy access to the connections. Connect the sensor wires as follows, terminals from left to right on the 4 way connector)

Term 1 (Left)	-	RED (+12V)
Term 2	-	Black (0V)
Term 3	-	Blue (Data A) *not Wht per ident*
Term 4 (Right)	-	Green (Data B)

Always connect the screen drain wire with the Black (Term 2).

Always use Bootlace ferrules when terminating the sensors to ensure a good connection to the terminals.

6.1.4 Extending Sensor Cables

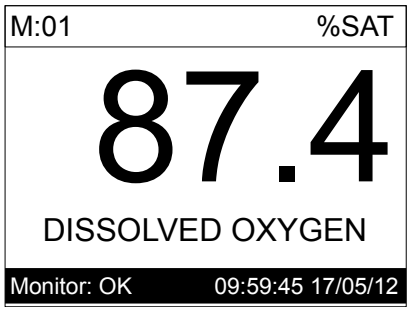
Sensors are usually supplied with 10 metre cables (longer cables can be provided if requested). These cables can be extended to a maximum length of 100 metres. To ensure optimum performance, only use Partech ModTechw² cable for extensions. Partech can supply junction boxes to allow for cable extensions. These should be used on all installations where the cable length from the sensor to the monitor exceeds 20M (Partech Junction boxes include on-board filtering for long cable lengths). Junction boxes are also useful for local connection of sensors close to the sample point. This allows for easy replacement of sensors without the need to pull back cables to the monitor. The junction box has an on-board terminator switch that can be activated to terminate the network if the sensor is to be removed for long periods.

When joining cables, ensure the connection is fully waterproof. Any moisture ingress can affect the communication between the sensor and monitor.

ModTechw² Cable specification-

- 2 Twisted Pair - Red/Black (Power) and Green/White (Data) with Screen and Drain wire
- Cores 24AWG (0,22mm²) 7 x 0,20mm
- Outer Insulation – PUR Polyurethane Blue (RAL5003), Diameter – 5mmØ

7 Sensor Configuration



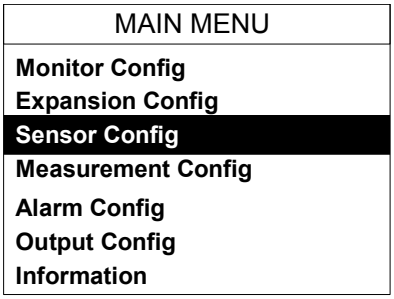
Before attempting to configure the sensor, please read the monitor user manual that came with your monitor. The monitor manual will introduce you to the basic set-up of the monitor, and will familiarise you with the monitor menu structure and buttons.
The monitor leaves the factory with no sensors installed.

Assuming the monitor has been physically connected to a sensor, the next step is to register and configure the sensor before any measurements can be made. A single sensor may provide one or more measurements. We advise only connecting one sensor at a time. Once the first sensor has been registered, connect the second and register again. Repeat for any additional sensors.

If a second sensor of the same type is to be used the Modbus address of the first device must be changed to avoid a conflict. Care must be taken to ensure that this Modbus address is not in use by another device. Addresses 1-8 are the best choice.

All sensors must be registered to the monitor in this way, even if they are different types.

7.1 Sensor Config



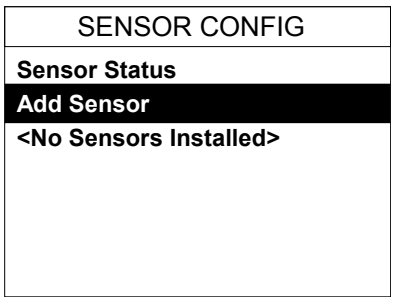
From the MAIN MENU screen, select SENSOR CONFIG using the ▼ arrow button, and press OK.

7.2 Sensor Status

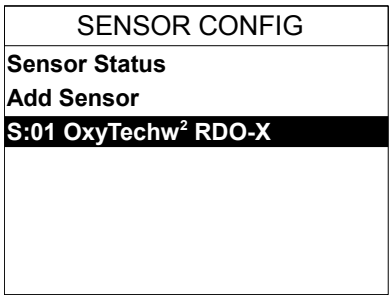
This option allows the user to review the current status of the 8 sensor channels, these will all be set to disabled until a sensor is added.

Once a sensor has been installed the display will be updated to indicate the sensor type installed and it's status.

7.3 Add Sensor



1. From the MAIN MENU screen, select SENSOR CONFIG by pressing ▼, and press OK.
2. The SENSOR MENU should be displayed. Press ▼ to highlight ADD SENSOR, and press OK.
3. The Monitor will now search all possible addresses (0 to 240) to find any attached sensors. During the search, any sensors found will be displayed briefly before continuing with the search.



4. Once the search is complete, the Monitor will display a list of sensors found. Each sensor will be automatically allocated a new number from S:01 to S:08.
5. Repeat the above process to install a second, third or more sensors. A total of 8 sensors are possible (expansion box may be required to add additional sensors).
6. Sensor addition is now complete.
7. The Add Sensor process will check all addresses to 240, once the new sensor has been located and installed the search can be ended by pressing the OK or MENU key.

7.4 S:0x OxyTechw² RDO Pro-X

Once the sensor has been added and registered, the monitor will provide a list of functions specific to the sensor. Press or to select the sensor and press . The CONFIG MENU will display a list of sensor functions.

7.4.1 S:0x Info

This function provides a range of diagnostic information that may be requested by Partech for fault finding.

CONFIG
S:01 Info
S:01 Remove
S:01 Modbus Address

7.4.2 S:0x Remove

⚠ This allows the sensor to be removed for re-configuration of the monitor or if a sensor has been added in error. If a sensor has been replaced with a new sensors, the old sensor must be removed, and the new sensor installed. If a sensor (in a multiple configuration) is no longer required, all traces from the menus can be removed.

You will be prompted with *'Are you sure?'* before the sensor is removed. Press to accept and remove.

7.4.3 S:0x Modbus Address

This option allows manual adjustment of the ModTechw² address for the sensor, under normal circumstances this should not be changed.

The Default Modbus address for the OxyTechw² RDO Pro-X Sensor is 38.

7.4.4 Set Salinity

This allows the user to apply a Salinity factor to the reading. Under normal circumstances this setting can be left at it's default setting of 0 PSU.

The sensor uses Practical Salinity Units (PSU), the Practical Salinity Scale defines salinity in terms of the conductivity ratio of a sample to that of a solution of 32.4356 g of KCl at 15°C in a 1 kg solution. A sample of seawater at 15°C with a conductivity equal to this KCl solution has a salinity of exactly 35 practical salinity units (psu).

For standard applications of the OxyTechw² RDO Pro-X it is safe to assume 1 PSU = 1 ppt

The maximum selectable value is 42 PSU, and minimum is 0 PSU.

7.4.5 Set Pressure

This allows the user to set an atmospheric pressure when the instrument is installed at an elevation above Sea Level

The default value is 1013.2 mBar

The maximum value is 1114.6 mBar and the minimum is 506.6 mBar, these values should be adequate to cover installation in all standard applications.

8 Measurement Configuration

The monitor leaves the factory without any measurements configured. Measurements will only be available after installing the relevant sensor(s).

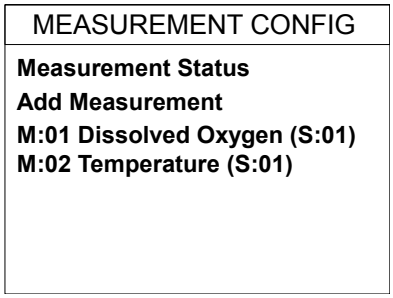
Once the sensor(s) have been registered with the monitor and installed, the default measurements will now be available.

Under normal circumstances the monitor will auto add the primary measurements to the first available measurement channels. For the OxyTechw² RDO Pro-X this means that %Sat, mg/l and Temperature will be added. The parameters of these measurements can be adjusted per the instructions below.

The default order is: **M:01** = %SAT, **M:02** = mg/l, **M:03** = Temperature.

8.1 Measurement Config

From the MAIN MENU screen, select MEASUREMENT CONFIG by pressing , press .



8.2 Measurement Status

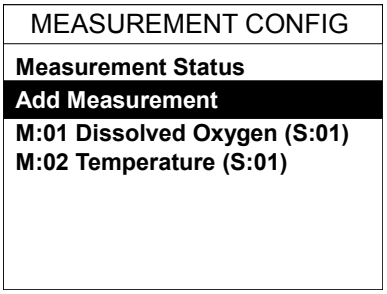
This option allows the user to review the current status of the 16 measurement channels, these will all be set to disabled until a sensor is added. In the example on the right the first two measurement channels will be enabled.

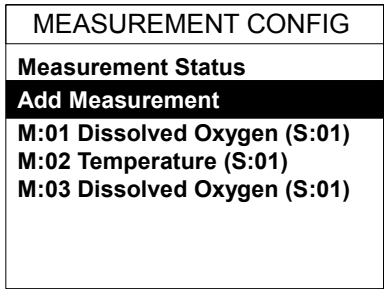
Once a measurement has been configured the display will be updated to indicate the measurement and it's status.

8.3 Add Measurement

There are two extra measurements that can be added to this list for the OxyTechw² RDO Pro-X sensor, Dissolved Oxygen in PPM and O2 Partial Pressure. To add any of these measurements the following should be applied.

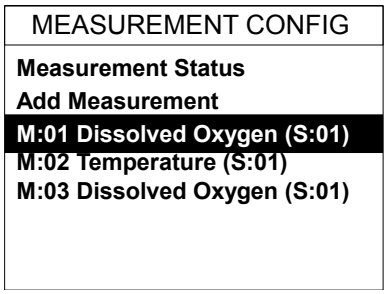
1. The MEASUREMENT MENU should be displayed. Press to highlight ADD MEASUREMENT, and press .
2. All available measurements will be displayed in a list. Press or to select the required measurement.
3. Press to select the measurement. Repeat the process if more measurements are required.
4. Each measurement will be allocated a measurement number from M:01 – M:16. A total of 16 measurements may be displayed.
5. Press to return back to the display screen. Your measurement addition should now be displayed. If more than one measurements were configured, press to cycle through the display screen to show the measurements, The screen shot on the right shows the additional measurement M:03 which is Dissolved Oxygen mg/l.





The Measurement Menu will list all configured measurements in order M:01 to M:16 the list will also indicate the sensor number that is delivering the signal for the measurement. Any permutation of measurements can be configured. It is not necessary to have all four measurements enabled.

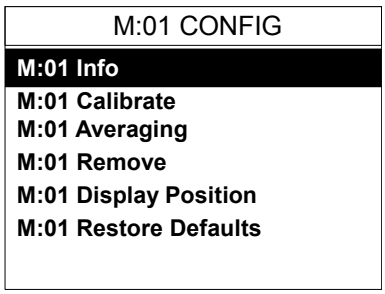
8.4 M:0x – Measurement Channel



Selecting a measurement channel will reveal a new sub-menu associated with that measurement. In **MEASUREMENT CONFIG** press to highlight the required measurement and press .

The sub-menu is as follows:

In **M:0x CONFIG** press to highlight the required function and press .



8.4.1 M:0x Info

This option provides multiple pages of additional information and diagnostics on the measurement. This information will only be required if a problem exists with the instrument performance.

8.4.2 M:0x Title

The measurement title appears on the measurement display, the default setting is 'Dissolved Oxygen'. This can be changed to suit the application, for example the 'User Defined' setting allows the title to be set to 'Lane 1', 'Lane 2' to allow the user to distinguish between multiple DO measurements

8.4.3 M:0x Calibrate

Important Note: *This option is only available on the* ***%SAT*** *measurement measurement channel.* ***%SAT*** *is the primary measurement associated with Dissolved Oxygen.*

The calibration of the system is covered in a separate section below.

8.4.4 M:0x Remove

This allows the user to remove a measurement that has been selected in error or to allow re-configuration of the system. Please use this option with care, all user settings will be lost if the measurement is removed in error.

8.4.5 M:0x Display Position

This option allows the position of the measurement to be moved. For example the Temperature measurement can be changed from M:03 to M:02 so it will appear second on the list in MEASUREMENT CONFIG menu. If the selected measurement channel is already in use then that measurement will move to the next measurement channel. Associated alarms and outputs will automatically follow this change in numbering.

9 Calibration

9.1 OxyTechw² RDO Pro-X Calibration Overview

The OxyTechw² RDO Pro-X Sensor is an optical sensor and requires calibration at a frequency determined by the application. We recommend that calibration is carried out during commissioning and is then checked after one weeks operation. Following this, calibration should be carried out after 3 months. At this time, ongoing calibration frequency can be determined. We believe that it is good instrument practice to check measurement validity on at least a yearly basis.

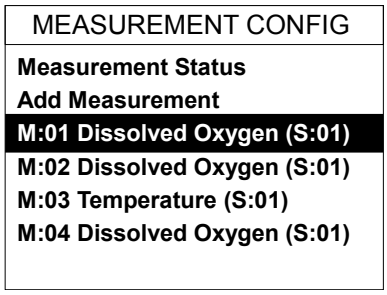
The OxyTechw² RDO Pro-X sensor can be calibrated at 100%Sat only or at both 0% and 100%Sat. The measurement principle of the sensor is inherently stable and therefore we recommend using the 100%Sat point only for normal calibration checks. To gain access to the 0%Sat point 'Service Mode' will need to be activated on the monitor, it is advisable to contact Partech for guidance before attempting to calibrate at 0%Sat.

9.2 Calibration

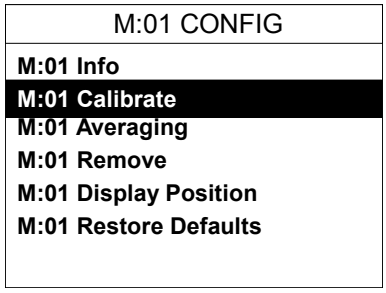
The sensor must be cleaned prior to attempting a calibration.

Using the Menu and arrows keys on the 7300w² Monitor, navigate to the Calibration menu as follows-

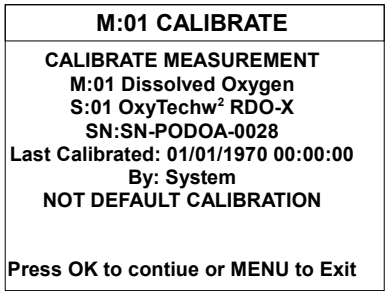
1. Press MENU to show the “MAIN MENU”.
2. Select “MEASUREMENT CONFIG” by pressing ▼ and press OK.
3. Select “Dissolved Oxygen %SAT” by pressing ▼ and press OK.



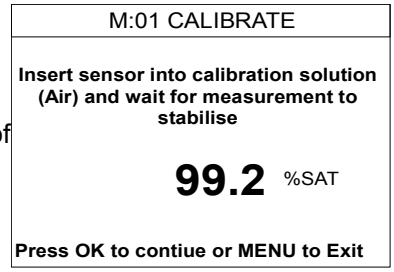
4. Select “CALIBRATE” by pressing ▼ press OK.



5. The “CALIBRATE” screen will be displayed, press OK to move on.



6. Ensure sensor is in air. During this period, variations caused by air flow can cause inaccuracies in the calibration. It is advisable to cover the sensor in windy conditions.
7. Wait for the value to stabilise, the display will show a default value of around 90%, press OK to accept once the value has stabilised.
8. Sensor is now calibrated for 100%SAT.


M:01 CALIBRATE
Insert sensor into calibration solution (Air) and wait for measurement to stabilise
99.2 %SAT
Press OK to contiue or MENU to Exit

10 Maintenance

10.1 General cleaning

OxyTechw² RDO Pro-X Sensors must be kept clean, particularly in the vicinity of the optical cap. Any biofilm could lead to measurement errors.

Regular inspection and cleaning is required to ensure the sensor works to the optimum performance. Cleaning frequency will depend on the sample being measured. With a new installation, a weekly inspection is advised for the first few weeks. The condition of the sensor after these inspections will determine the frequency of cleaning thereafter.

If the sensor is dirty, clean the sensor head with warm, soapy water. Use a sponge, but never use abrasive sponges with a scouring pad. Rinse before returning to the sample.

10.2 Inspection

If the sensor measures an offset in measurements during use, clean the sensor and calibrate as above.

If calibration cannot be performed (Invalid measurements or errors), the optical cap may need replacement

10.2.1 OxyTechw² RDO PRo-X Cap Replacement

The OxyTechw² RDO Pro-X sensor cap has a recommended life of 24 months, the monitor will provide a warning that the cap is beyond it's recommended life and that is should be replaced. The sensor has in-built fault diagnosis that will detect damage to the cap and will create a warning if the cap needs replacement prior to the end of the 24 month life.

1. Pull the used sensor cap off of the sensor, without twisting.
2. Remove the existing O-rings from the sensor.
3. Use a lint-free cloth to remove any moisture from the sensor body.

   Note: Make sure that the O-ring grooves are dry. Avoid touching or cleaning the lens with anything other than the supplied lens wipe.
4. Use your finger to apply a thin layer of lubricant around the O-ring grooves. Place the O-rings on the sensor.

   Note: Do not transfer lubricant to the lens or sensor pins.
5. Clean the lens on the sensor with the wipe provided in the kit and allow to dry thoroughly. Inspect for scratches or dirt.
6. Remove the new cap from its sealed package.
7. Align the arrow on the cap with the index mark on the sensor and press it firmly, without twisting, until it seals over the probe body. Make sure that the O-rings are not pinched or rolled between the cap and sensor.
8. Replace the nose cone
9. There is no need to enter any cap coefficients, this is taken care of by the advanced sensor and cap electronics.
10. It is advisable to check the sensor measurement by placing the sensor in air and allowing it to stabilise. Calibration can be carried out if necessary.

11 Technical Support

Technical Support is available by phone, fax, or email, the details of which are shown below.

- Phone: +44 (0) 1726 879800
- Fax: +44 (0) 1726 879801
- Email: techsupport@partech.co.uk
- Website: www.partech.co.uk

To enable us to provide quick and accurate technical support please have the following information ready when you contact us:

- Serial Number or original purchase details.
- Sensor Type, and Serial Number.
- Application details.
- Description of fault.
- Digital photos can also be useful to determine correct installation and suitability to the application.

11.1 Returning Equipment for Repair

If equipment needs to be returned to Partech for repair or service the following address should be used:

SERVICE DEPARTMENT
PARTECH (ELECTRONICS) LTD
CHARLESTOWN
ST AUSTELL
CORNWALL
PL25 3NN
UNITED KINGDOM

Please include the following information with the returned equipment. Also ensure that sensor is clean and adequately protected for transportation (Advice on packing can be provided by our service department).

- Contact name and phone number of person authorising the repair
- Site details including application sample point
- Return address for equipment
- Description of fault or service required
- Any special safety precautions because of nature of application

12 Technical Specification – OxyTechw² RDO Pro-X

12.1 Physical

Dimensions .....203 x 47mm (H x Diameter)
Environmental Class.....IP68
Enclosure Material.....Delrin, ABS, Viton, Titanium, Polycarbonate/Polymethyl(methylacrilate)
Weight.....0.8 Kg (inc 10 metres of cable)
Operating Temperature.....0 to +50° C
Storage Temperature.....-5 to +60° C – Probe
.....1 to 60 C – cap
Mounting Location.....Indoor/Outdoor
Cable Entries.....Integral Cable Gland
Cable Type.....6 core
Cable Length.....10 metres Standard, 100 metres Max
Pressure Rating (Depth).....210 Metres

12.2 Electrical

Supply.....12VDC from 7300w² Monitor
Sensor Communication.....Partech w² Protocol (Specifically developed for WaterWatch² range)

12.3 Measurement

Range.....0-50.00mg/l or ppm
Accuracy.....±0.1% mg/l on range 0-8 mg/l
.....±0.2% mg/l on range 8-20 mg/l
.....± 10% on range 20-50 mg/l
Resolution.....0.01 mg/l
Response Time.....90% of value in less than 45 seconds @25° C
.....95& of value in less than 60 seconds @ 25 C
Measurement Principle.....Optical measurement of Luminescence
Light Source.....Blue LED
Temperature Measurement.....Thermistor
Flow Rate.....No flow necessary

12.4 Mounting Options

Mounting Shaft.....1 to 3 metres in 1 metre increments

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